

4 5/8" Ø CARRIAGE HEAD, BUTTON  
 HEAD OR HEX HEAD BOLTS  
 WITH HEX NUTS & WASHERS,  
 AS SHOWN \_\_\_\_\_

5/8" Ø BUTTON HEAD OVAL  
SHOULDER BOLT OR CARRIAGE  
HEAD BOLT WITH HEX NUT &  
WASHER \_\_\_\_\_

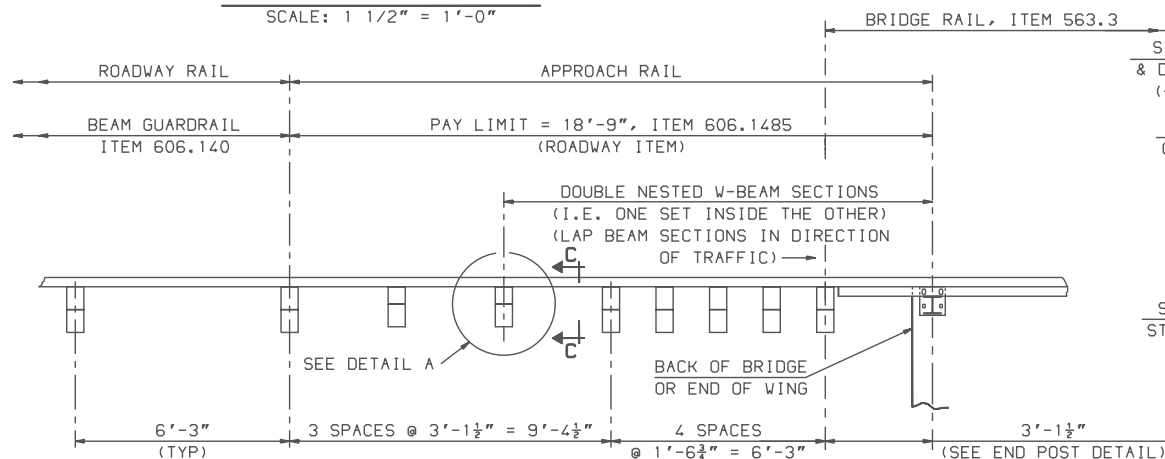
1 1/4" Ø x 2 1/8"  
DOUBLE EXTRA STRONG  
PIPE SLEEVE & WASHERS

10" x 9" x 1"  
BASE PLATE —

3/4" Ø ANCHOR STUD

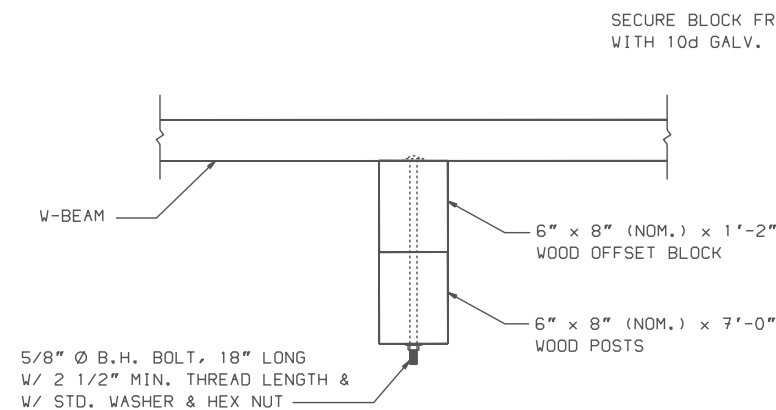
*BRIDGE RAIL DETAIL*

SCALE: 1 1/2" = 1'-0"



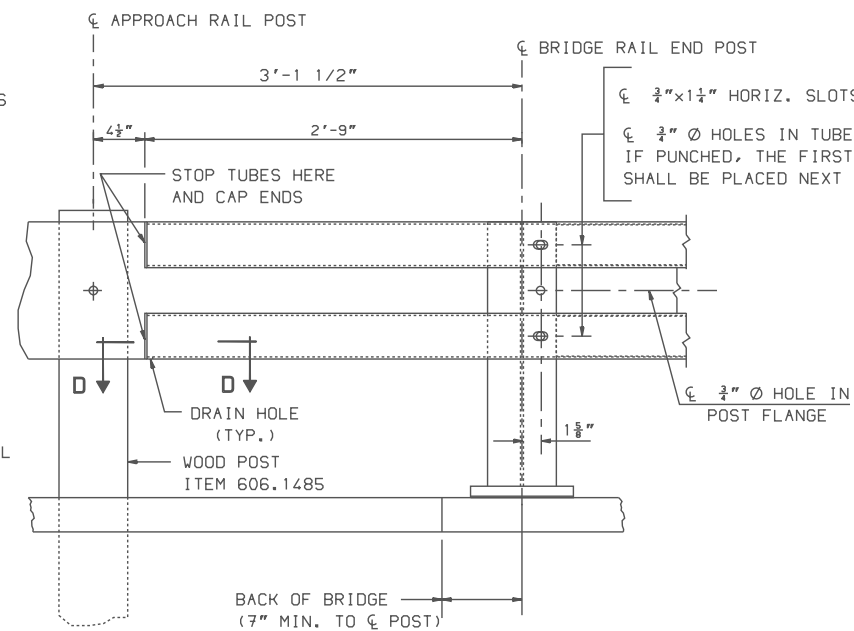
### APPROACH RAIL LAYOUT

SCALE: 3/8" = 1'-0"



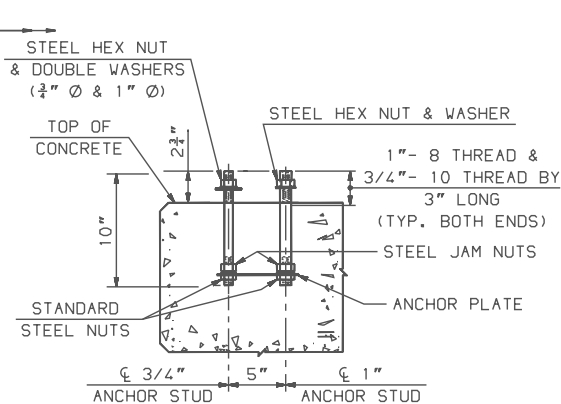
*DETAIL "A"*

SCALE: 1 1/2" = 1'-0"



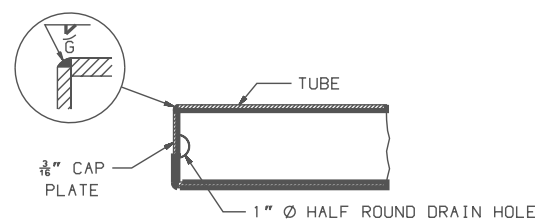
*END POST DETAIL*

SCALE: 1 1/2" = 1'-0"



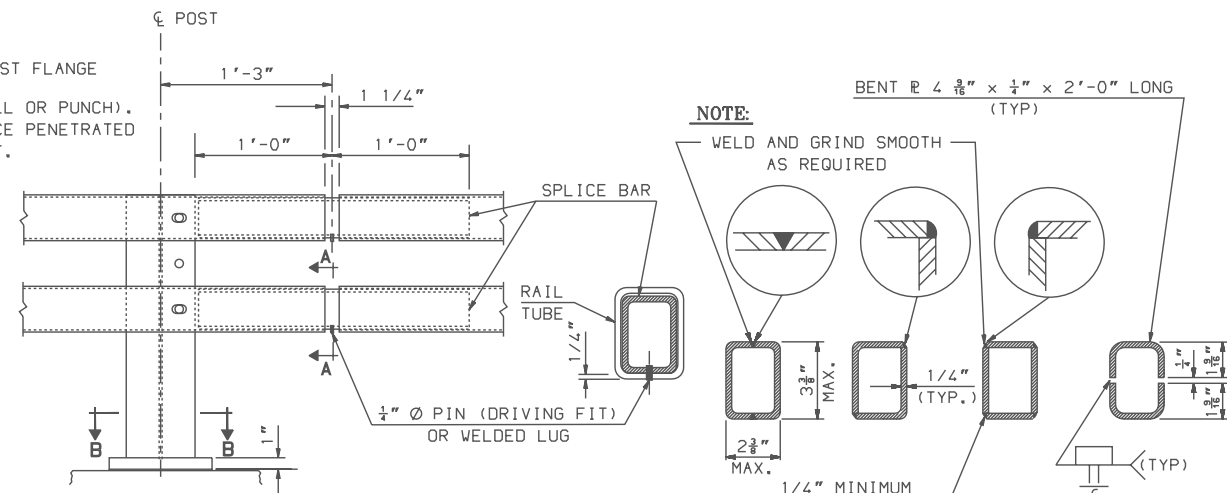
## POST ANCHOR ASSEMBLY

SCALE: 1 1/2" = 1'-0"



RAIL CAP DETAIL  
(SECTION D-D)

SCALE: 3" = 1'-0"



### TYPICAL SPLICE

SECTION A-A

### SPLICE BAR FABRICATION OPTIONS

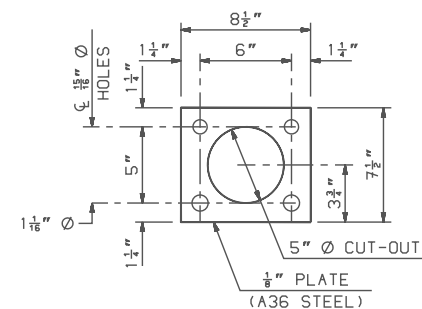
**NOTE:** THE DIFFERENCE BETWEEN THE OUTSIDE DIMENSIONS OF THE SPLICE BAR AND THE INSIDE DIMENSIONS OF THE RAIL SHALL BE APPROXIMATELY 1/8" (NOT TO EXCEED 3/16") ALONG EITHER AXIS TO PERMIT CLEARANCE FOR INSIDE WELD FLASH.

NOTE: OTHER SECTIONS OF EQUAL OR GREATER  
STRENGTH ARE ACCEPTABLE FOR SPLICE BARS.

### SPLICE BAR DETAILS

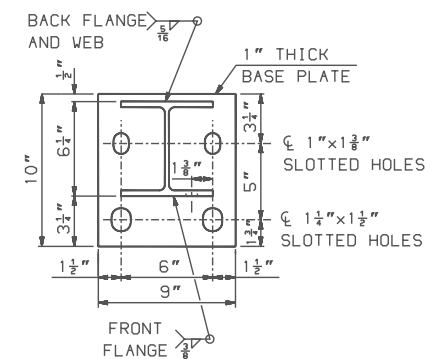
GENERAL NOTES:

1. ITEM 563.3, BRIDGE RAIL T101, SHALL INCLUDE POSTS, BASE PLATES, ANCHOR BOLTS, PREFORMED PADS, RAIL ASSEMBLY BOLTS, NUTS, WASHERS, STRUCTURAL TUBING, SPLICE BARS, AND PIPE SLEEVES, AND W-BEAM SECTION.
  - ASTM A572 GRADE 50: POSTS, BASE PLATES
  - ASTM A500 GRADE B: STRUCTURAL TUBING
  - ASTM A36 : PIPE SLEEVES AND RAIL SPLICE BARS
  - ASTM A449 : ANCHOR STUDS WITH STANDARD NUTS AND HARDENED STEEL COMMERCIAL TYPE A PLAIN WIDE WASHERS
  - A307: RAIL BOLTS, NUTS, & WASHERS
  - AASHTO M180 TYPE II: W-BEAM SECTION
2. ALL STEEL COMPONENTS SHALL BE GALVANIZED AFTER FABRICATION IN CONFORMANCE TO AASHTO M232 (ASTM A153) AND AASHTO M111 (ASTM A123). GALVANIZED SURFACES SHALL HAVE A UNIFORM APPEARANCE AND GALVANIZED MATERIAL SHALL BE PROPERLY STORED.
3. HOLES IN BASE PLATES SHALL BE FILLED FLUSH WITH ITEM 562.1, ELASTOMERIC SEALANT AFTER RAIL INSTALLATION.
4. STRUCTURAL TUBING SHALL BE SUPPLIED AS ONE PIECE FOR BRIDGE RAIL 40 FEET OR LESS IN LENGTH. IN OTHER CASES, TUBING SHALL BE SPLICED WITH A SPLICE BAR (SEE SPLICE BAR DETAIL). NO TRANSVERSE BUTT WELDS ARE PERMITTED ON RAIL TUBING WITHIN A CONTINUOUS LENGTH.
5. EACH PIECE OF RAIL TUBING SHALL BE ATTACHED TO A MINIMUM OF THREE POSTS.
6. FOR BRIDGE RAIL POST SPACING, SEE BRIDGE RAIL LAYOUT. THE MAXIMUM BRIDGE RAIL POST SPACING SHALL BE 8'-4". A POST SPACING OF 8'-4" OR 6'-3" IS RECOMMENDED WHENEVER POSSIBLE FOR USE WITH 25' SECTIONS OF THE STANDARD W-BEAM RAIL.
7. PREFORMED BEARING PADS SHALL CONFORM TO AASHTO M251.
8. NUTS FOR THREADED ANCHOR STUDS CONNECTING THE BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
9. THIS RAIL SYSTEM HAS BEEN SUCCESSFULLY EVALUATED BY FULL-SCALE CRASH TESTS TO MEET NCHRP REPORT 230 SL-2 CRITERIA. (TEXAS TRAFFIC RAIL TYPE T101, REVISED 9/89)



### ANCHOR PLATE DETAIL

SCALE: 2" = 1'-0"



BASE PLATE DETAIL  
(SECTION B-B)

SCALE: 2" = 1'-0"

(GALVANIZED - 3" CURB REVEAL)

STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION, CONCORD, N.H.

5	TEXAS T101 BRIDGE & APPROACH RAIL (STEEL)
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## STANDARD PLANS

**STANDARD NO.**  
**BR-R9**

WINDOW NAME	*FGB FILE NAME	SHEET SCALE
BR-R9	BR-STNDS-NHBOOK	AS NOTED